IN THE CLAIMS

1. (currently amended) A method for preparing thermally stable, silicon-containing titanium dioxide, said method comprising the steps of: a) providing a starting material that is titanium hydroxide or titanium dioxide; and b) reacting said starting material with a silica sol at a reaction pH in the range between 6 and 11 and at a reaction temperature in the range between ambient temperature and 100°C~~, under conditions which prevent the coagulation of silica particles in said sol, to obtain silicon-containing titanium hydroxide or silicon-containing titanium dioxide, and in the case of silicon-containing titanium hydroxide, heat treating the same~~ to obtain silicon-containing titanium dioxide.

2. (currently amended) A method according to claim 1, wherein ~~the~~ said starting material is ~~titanium hydroxide~~ obtained by a precipitation method which comprises the following steps:

a) providing an acidic aqueous solution containing inorganic salts of titanium and, if required, increasing the pH of the solution to a value above 0.02 but below 1.7 ~~the value at which precipitation of titanium hydroxide occurs~~, by introducing into said solution a first alkaline agent;

b) dissolving in said solution a precursor of ~~an~~ a second alkaline agent, and causing said precursor to generate said second alkaline agent and thereby to precipitate titanium hydroxide in said ~~the~~ solution; and

c) separating and washing said precipitate of titanium hydroxide.

3. (currently amended) A method according to claim 2, wherein the first alkaline agent used in step b) is selected from the group consisting of ammonia, hydroxides, ~~and~~ carbonates of ~~alkaline~~ alkali metals, and carbonates of ~~or~~ alkaline earth metals.

4. (currently amended) A method according to claim 2, wherein ~~the~~ said precursor of the alkaline agent used in step b) ~~c)~~ is urea, which, upon heating, is decomposed to generate a second alkaline agent which is ammonia.

5. (currently amended) A method according to claim 1, wherein ~~the conditions which prevent the coagulation of silica particles in the silica sol are chosen from among stabilizing said silica sol with an alkaline agent or treating the titanium hydroxide or titanium dioxide starting material with an alkaline agent before it is contacted with the silica sol, to adjust the pH of said starting material to a value above 6.0, and preferably between~~ said reaction pH is from 8 to 10.

6. (previously amended) A method according to claim 1, wherein the titanium hydroxide or titanium dioxide starting material is in a form selected from the group consisting of wet cake, aqueous suspension, dough, and dry form.

7. (currently amended) A method according to claim 1, wherein ~~the~~ said reaction ~~is carried out at a temperature in the range between ambient to boiling point of the liquid phase, preferably~~ temperature is in the range of 70-100°C.

8. (previously amended) A composition of matter comprising a thermally stable titanium dioxide made by the method of claim 1 and containing not more than 18% silicon, calculated in terms of SiO_2 on dry basis.

9. (currently amended) The composition of matter of claim 9 wherein the ~~A~~ thermally stable titanium dioxide ~~according to claim 8, which~~ is a single homogeneous phase~~, having essentially the same composition at different points, as determined by the EDAX method~~.

10. (original) The composition of matter of claim 8 wherein the ~~A~~ thermally stable titanium dioxide ~~according to claim 7, having~~ has a specific surface area greater than 300 m^2/g, and a specific pore volume which is of at least 0.30 cc/g for pores having a diameter less than 100 nm.

11-16. (canceled)

17. (currently amended) A method for preparing titanium dioxide having high surface area and a well developed mesopore structure, comprising the steps of:

a) providing an acidic aqueous solution containing inorganic salts of titanium and, if required, increasing the pH of the solution to a value above 0.02 but below 1.7 ~~the value at which precipitation of titanium hydroxide occurs~~, by introducing into said solution a first alkaline agent;

b) dissolving in said solution a precursor of ~~an~~ a second alkaline agent, and causing said precursor to generate said second alkaline agent and thereby to precipitate titanium hydroxide in said ~~the~~ solution; and

c) separating and washing said precipitate of titanium hydroxide and converting the same into titanium dioxide.

18. (new) The composition of matter of claim 8 further comprising

a) a filler; and, optionally

b) a binder,

wherein the thermally stable titanium dioxide is at least 3% w/w of the composition.

19. (new) The composition of matter of claim 18 wherein the filler is a silica filler.

20. (new) The composition of matter of claim 19 wherein the silica filler is diatomaceous earth.

21. (new) The composition of matter of claim 18 wherein the binder is a colloidal solution of silica.

22. (new) The composition of matter of claim 18 wherein the binder is a hydrogel of silicic acid.

23. (new) The composition of matter of claim 18 which is prepared in a form selected from the group consisting of an extrudate, a bead, a tablet, a honeycomb, or a block of any desired shape.

24. (new) The composition of matter of claim 18 which is capable of retaining a surface area above 28 m^2/g after calcinations at 800°C for 3 hours and retaining a surface area above 120 m^2/g after hydrothermal treatment at 400°C for 5 hours.